

Figure 1A

LF native DNA sequence

1 atgaatataa aaaaagaatt tataaaaagta attagtatgt catgttttgtt aacagcaatt
 61 actttgagtg gtcccgtctt tatccccctt gtacaggggg cgggcggca tggtgatgt
 121 ggtatgcacg taaaagagaa agagaaaaat aaagatgaga ataagagaaa agatgaagaa
 181 cggaaataaaaa cacaggaaga gcatttaaag gaaatcatga aacacattgt aaaaatagaa
 241 gtaaaaagggg aggaagctgt taaaaaagag gcagcagaaa agctacttga gaaagtacca
 301 tctgatgttt tagagatgtt taaagcaatt ggagggaaaga tatatattgt ggatgggtgat
 361 attacaaaac atatatcttt agaagcatta tctgaagata agaaaaaaat aaaagacatt
 421 tatggggaaag atgctttattt acatgaacat tatgtatatg caaaagaagg atatgaaccc
 481 gtacttgttaa tccaaatcttc ggaagattat gtagaaaata ctgaaaaggc actgaacgtt
 541 tattatgaaa taggtaagat attatcaagg gatattttaa gtaaaattaa tcaaccatat
 601 cagaaatttt tagatgtttaa aataaccatt aaaaatgcattt ctgattcaga tggacaagat
 661 cttttatcta ctaatcagct taagggacat cccacagact tttctgttaga attcttgaa
 721 caaaatagca atgaggtaca agaagttttt gcgaaagctt ttgcatttttata tattcgagcc
 781 cagcatcgtt atgttttaca gctttatgca ccggaaagctt ttaattacat ggataaattt
 841 aacgaacaag aaataaatctt atccttggaa gaacttaaag atcaacggat gctgtcaaga
 901 tatgaaaaat gggaaaagat aaaacagcac tatcaacact ggagcgattt tttatctgaa
 961 gaaggaagag gactttttaa aagctgcag attcttattt agccaaagaa agatgacata
 1021 attcatttctt tatctcaaga agaaaaaagag cttctaaaaa gaatacaat tgatagtagt
 1081 gatttttat ctactgagga aaaagagttt ttaaaaaaagc tacaatttga tattcgttat
 1141 tctttatctt aagaagaaaa agagctttt aatagaatac aggtggatag tagtaatcct
 1201 ttatctgaaa aagaaaaaaga gttttttaaa aagctgaaac ttgatattca accatatgat
 1261 attaatcaaa ggttgcaga tacaggaggg ttaattgata gtccgtcaat taatcttgat
 1321 gtaagaaagc agtataaaag ggatattcaa aatattgtt ctttatttaca tcaatccatt
 1381 ggaagtaccc ttgtacaataa aatttattt gatggaaata tgaatatcaa taaccttaca
 1441 gcaacccttag gtgcggattt agttgattcc actgataata ctaaaattaa tagaggtatt
 1501 ttcaatgaat tcaaaaaaaaaa tttcaaatat agtatttcta gtaactatac gattgttgat
 1561 attaaatgaaa ggcctgcatt agataatgag cgtttggaaat ggagaatcca attatcacca
 1621 gatactcgag caggatattt agaaaaatgga aagcttataat tacaatggaaa catcggtctg
 1681 gaaataaaagg atgtacaaat attaagcaa tccggaaaaag aatataataag gattgtatgcg
 1741 aaagtagtgc caaagagtaa aatagataca aaaattcaag aagcacagtt aaatataat
 1801 caggaatgga ataaagcatt agggttacca aaatatacaa agcttatttac attcaacgtt
 1861 cataatagat atgcattccaa tattttagaa agtgcattt taatatttga tgaatggaaa
 1921 aataatatttca aaagtgtatct tataaaaaag gtaacaaattt acttagttga tggtaatgg
 1981 agatttggttt ttaccgatatt tactctccct aatatagtt gacaatatac acatcaagat
 2041 gagatataatg agcaagttca ttcaaaaaggg ttatgttcc cagaatcccg ttctatattt
 2101 ctccatggac cttcaaaaagg ttgtatgttta aggaatgata gtgagggttt tatacacgaa
 2161 ttggacatgtt ctgtggatgtt ttatgttccca tatcttatttataa agaaccatca atctgattt
 2221 gttacaaattt ctaaaaaattt cattgtatattt tttaaggaag aaggagttaa tttaacttcg
 2281 tatggggagaa caaatgaaagc gaaattttt gcagaagcct ttaggttaat gcattctacg
 2341 gaccatcgtt aacgtttaaa agttcaaaaa aatgctccga aaactttcca atttattaaac
 2401 gatcagatattt agttcattttt taactcataa

Coding sequence: 1-2430

Signal peptide: 1-99

Mature peptide: 100-2430

LF4 peptide: 124-855

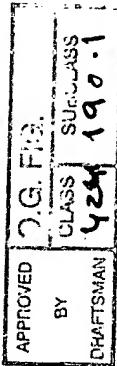




Figure 1B

Amino acid sequence for LF mature peptide (missing the signal sequence)

1 agghgdvgmh vkekeknkde nkrkdeernk tqeehlkeim khivkievkg eeavkkeaae
61 kllkekpsdv lemykaiggk iyivdgdtlk hislealsed kkkikdiykg dallhehyvy
121 akegyepvlv iqssedyven tekalnvyye igkilsrdil skinqpyqkf ldvlntikna
181 sdsdgqdlif tnqlkehptd fsvefleqns nevqevfaka fayyiepqhr dvlqlyapea
241 fnymdkfneq einlsleelk dqrmlsryek wekikqhyqh wsdslseegr gllkkklqipi
301 epkkddihs lsqeeekellk riqidssdfi steekeflkk lqidirdslls eekellnri
361 qvdssnplse kekeflkk lkdiqpydinq rlqdtgglid spsinldvrk qykrdrqnid
421 allhqsigst lynkiylyen mninnlattl gadlvdstdn tkinrgifne fkknfkysis
481 snymivdine rpaldnerlk wriqlspdtr agylengkli lqrnigleik dvqiikqsek
541 eyiridakvv pkskidtki q eaglninqew nkalglpkty klitfnvhnr yasnivesay
601 lilnewknni qsdlikkvtn ylvdgngrfv ftditlpnia eqythqdeiy eqvhskglyv
661 pesrsillhg pskgvelrnd segfihefgh avddyagyll dknqsdlvtn skkfidiifke
721 egsnltsygr tneaeffaea frlmhstdha erlkvqknap ktfqfindqi kfiins

Amino acid sequence for LF4 (amino acids 9-252 from above sequence)

9 mh vkekeknkde nkrkdeernk tqeehlkeim khivkievkg eeavkkeaae
61 kllkekpsdv lemykaiggk iyivdgdtlk hislealsed kkkikdiykg dallhehyvy
121 akegyepvlv iqssedyven tekalnvyye igkilsrdil skinqpyqkf ldvlntikna
181 sdsdgqdlif tnqlkehptd fsvefleqns nevqevfaka fayyiepqhr dvlqlyapea
241 fnymdkfneq ei



Figure 2A

PA native DNA sequence

ORIGIN

Coding sequence: 1-2295

Signal peptide: 1-87

Mature peptide: 88-2295

racaine peptide



Figure 2B

Amino acid sequence for PA mature peptide (missing the signal sequence)

1 evkgenrlhn esessssqgll gyyfsdlnfq apmvvtssst gdlsipsssel enipsenqyf
61 qsaiwsgfik vkkdsdeytfa tsadnhvtmw vddqevinka snsnskirlek grlyqikiqy
121 qrenptekgl dfklywtdsq nkkevissdn lqlpelqks snsrrkrsts agptvpdrdn
181 dgipdsleve gytvdvknkr tflspwisni hekkgltyk sspekwstas dpysdfekvt
241 gridknvspe arhplvaayp ivhvdmenii lsknedqstq nttdsqtrtis kntstsrth
301 sevhgnaevh asffdiggs sagfsnsnss tvaidhssl agertwaetm glntadtarl
361 naniryvntg tapiynvlp tsvlgknqt latikakenq lsqilapnn ypsknlapia
421 lnaqddfsst pitmnyqfl elektkqlrl dtdqvgnia tynfengrvr vdtgsnwsev
481 lpqiqettar iifngkdlnl verriaavnp sdplettkpd mtlkealkia fgnepngnl
541 qyqgkditel dfnfdqqtsg niknqlaeln atniytvldk iklnakmnil irdkrfhydr
601 nniavgades vvkeahrevi nsstegllln idkdirkils gyiveiedte glkevindry
661 dmlnisslrq dgktfidfkk yndklplyis npnykvnvya vktentiinp sengdtstng
721 ikkilifskk gyeig

Amino acid sequence for pCPA (amino acids 175-735 from above sequence)

175 vpdrdn
181 dgipdsleve gytvdvknkr tflspwisni hekkgltyk sspekwstas dpysdfekvt
241 gridknvspe arhplvaayp ivhvdmenii lsknedqstq nttdsqtrtis kntstsrth
301 sevhgnaevh asffdiggs sagfsnsnss tvaidhssl agertwaetm glntadtarl
361 naniryvntg tapiynvlp tsvlgknqt latikakenq lsqilapnn ypsknlapia
421 lnaqddfsst pitmnyqfl elektkqlrl dtdqvgnia tynfengrvr vdtgsnwsev
481 lpqiqettar iifngkdlnl verriaavnp sdplettkpd mtlkealkia fgnepngnl
541 qyqgkditel dfnfdqqtsg niknqlaeln atniytvldk iklnakmnil irdkrfhydr
601 nniavgades vvkeahrevi nsstegllln idkdirkils gyiveiedte glkevindry
661 dmlnisslrq dgktfidfkk yndklplyis npnykvnvya vktentiinp sengdtstng
721 ikkilifskk gyeig

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